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ABSTRACT

This cross-sectional study attempted to (1) demonstrate that children's sex role orientation is related to their tendency for Type A behavior and (2) ascertain whether children expressing Type A behavior would experience difficulty in making and keeping friends. Participants were 286 kindergarten children and elementary school students in the first four grades attending one private and one public school. Each child was interviewed separately to obtain self-ratings on a sex role questionnaire, responses to a Type A questionnaire, and nominations of peers' sociometric status. Teachers rated children on sex role and Type A behavior. Findings indicated that the masculine sex role is associated with Type A behavior. Several results suggested the possibility of a developmental trend from kindergarten to fourth grade in the expression of Type A behavior by certain sex role groups. Aggressive Type A behavior was associated with masculinity, and with the absence of masculinity and femininity (i.e., the undifferentiated individual). The MYTH test of children's Type A behavior was found to contain items measuring two factors: one measuring leadership and competitiveness, the other measuring aggressiveness and impatience. It is concluded that the data strongly suggest that Type A behavior in early grade school children is predictive of the quality of peer relationships. Hostile Type A children make poor friends. (RH)

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Effect of Sex-Roles and Type A Behavior on Children's Friendship Choices

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Effect of Sex-Roles and Type A Behavior on Children's Friendship Choices

Recent medical research has implicated a behavioral style called the Type A behavior pattern in the etiology of coronary disease (Rosenman, Brand, Jenkins, Friedman, Straus, & Wurm, 1975). The Type A construct is marked by competitive, achievement-oriented, impatient, and aggressive behavior (Friedman & Rosenman, 1974). Research (e.g., Matthews, 1981; Matthews & Angulo, 1980) is beginning to be directed at the genesis of this maladaptive coping strategy in children. If researchers can discover the antecedents of adult Type A behavior, then perhaps psychologists can modify this behavior pattern in childhood or adolescence before it leads to long-term health impairment.

The present research seeks to extend the study of Type A behavior in grade school children to two new issues. First, there is data which suggests that an individual's sex role orientation is related to their expression of Type A behavior (Auten, Hull, & Hull, 1985; Stevens, Pfost, & Ackerman, 1984). This data indicates that the Type A personality is a variant of the masculine sex role type, albeit a somewhat undesirable aspect. One aim of this study was to demonstrate that a child's sex role orientation is related to their tendency for Type A behavior.

A second issue addressed by the present research concerns the effect of Type A behavior (and sex role orientation) on children's friendship choices. The peer sociometric nomination method is cur-

rently a popular method for studying children's social competencies (Asher & Hymel, 1981), and it was employed in this study to obtain a measure of whether a given child had successfully mastered a set of friendship-making social skills. It was predicted that a child who expresses Type A behavior would experience difficulty in making and keeping friends because of their hostility and aggression.

And last, these dynamics were investigated cross-sectionally over a four year age span in the early grade school years in order to see whether reliable developmental patterns are evident in children of this age. It was predicted that kindergartners would not present as clear a picture of the relationship between Type A behavior and sociometric standing as the third/fourth graders because neither the Type A pattern nor friendship behaviors are very stable for these young children.

Method

Subjects

The age span for this study was kindergarten to 4th grade. We sampled children from two schools, one private and one public, to increase generalizability. We received permission to obtain data on the total pool of 305 children and succeeded in obtaining data for 286 children: 86 kindergartners, 91 1st and 2nd graders, and 109 3rd and 4th graders.

Method

Each child was interviewed separately to obtain self-ratings on a sex role questionnaire for children (CPAQ: Hall & Halberstadt,

1980), a Type A questionnaire for children (MYTH: Matthews & Angulo, 1980), and the sociometric peer nomination method. For the latter, each child was asked to name "three children in your classroom who you like the most, and three children who you like the least". Then we tallied the nominations received by each child and thus obtained a measure of how much each child was liked and disliked by his or her peers. In addition, each child was rated on the MYTH and the CPAQ by his or her teachers. Findings reported here are based on combined child and adult ratings.

The MYTH questionnaire has been found to contain two Type A factors: factor 1, which measures leadership and competitiveness, and factor 2, which measures aggressiveness and impatience (Matthews & Angulo, 1980). Analyses reported below will distinguish between findings on the combined MYTH score and the two MYTH factor scores.

Results

The first prediction to be tested was whether children who had high Type A scores also had high masculinity scores. Combined MYTH scores correlated highly with CPAQ masculinity scores, $r(280) = .50$, $p < .001$, and nonsignificantly with femininity scores. The correlations are reported in Table 1. An investigation of the correlations of masculinity and femininity with the two Type A factor scores reveals that the aggressiveness factor is predicted only by masculinity, $r(280) = .25$, $p < .001$, but the leadership factor is predicted by both masculinity, $r(280) = .66$, $p < .001$, and femininity, $r(280) = .25$, $p < .001$.

Insert Table 1 about here

Other correlations of importance in Table 1 concern whether sex role orientation or Type A behavior ratings predict sociometric standing. Sociometric liking nominations were positively associated with masculinity, femininity, the combined MYTH score, and the leadership MYTH factor. Sociometric disliking nominations were positively associated with the aggressiveness MYTH factor and negatively associated with masculinity, femininity, and the leadership MYTH factor. It is important to note that the combined MYTH score failed to correlate significantly with disliking nominations, whereas the aggressiveness MYTH factor succeeded in predicting them.

The next step was to perform a three-way ANOVA (Grade X Gender X Sex role) on combined MYTH scores to see if different sex role types (see Spence & Helmreich, 1978) evidenced different levels of Type A behavior. A main effect for gender showed that, as predicted, boys had higher Type A scores than girls, $F(1, 240) = 10.88$, $p < .005$. A main effect for sex role was found, $F(3, 240) = 19.42$, $p < .005$, and was subsequently submitted to a Newman-Keuls post-hoc analysis to determine significant differences between sex role groups. The analysis indicated that masculine ($M = 56.32$) and androgynous ($M = 53.28$) children had higher Type A scores than undifferentiated ($M = 44.97$) and feminine ($M = 42.96$) children.

The interaction between grade and sex role was statistically

significant, $F(6, 240) = 3.99$, $p < .005$; the means are presented in Table 2. An interesting developmental trends is suggested in this data. At the kindergarten level, masculine and androgynous children are rated highest on Type A behavior. As they become older, the androgynous children are rated lower on Type A behavior. At the fourth grade level, then, only masculine children are rated high on Type A behavior, and the other three groups are equally low.

Insert Table 2 about here

Analyses were next performed on the leadership/competitiveness factor of the MYTH test to see if the results varied from those found for the entire test. A main effect for gender was found, $F(1, 240) = 5.42$, $p < .025$, which replicated the effect found above: males were rated higher than females. Also, the main effect for sex role, $F(3, 240) = 40.8$, $p < .001$, duplicated the finding above that masculine and androgynous children were rated higher than feminine and undifferentiated children. The grade by sex role interaction was not statistically significant ($p = .10$).

Analyses for the aggressiveness/impatience factor of the MYTH test were also similar to those for the entire test, but there were a couple of differences. The gender main effect was identical. The sex role main effect, $F(3, 240) = 4.95$, $p < .005$, however, indicated that masculine ($M = 27.63$) subjects were rated highest, androgynous ($M = 24.94$) and undifferentiated ($M = 24.30$) subjects were rated

intermediate, and feminine (M = 21.91) subjects were rated lowest. The grade by sex role interaction, $F(6, 240) = 6.40$, $p < .001$, was identical to the combined MYTH interaction (Table 2) with one exception: the undifferentiated subjects increased in Type A ratings from kindergarten to 4th grade to such a degree that they shared with the masculine group the honor of being the highest groups. The means are presented in Table 3.

Insert Table 3 about here

To see if sex role orientation has an effect on sociometric liking and disliking nominations, three-way ANOVAs were performed on each in turn. A main effect for sex role, $F(3, 240) = 6.99$, $p < .001$, was submitted to post-hoc analysis, and it was found that masculine (M = 4.13) and androgynous (M = 3.41) subjects were liked by their peers more than feminine (M = 2.81) and undifferentiated (M = 2.23) subjects. However, the main effect for gender was nonsignificant (p = .64) indicating the boys and girls were equally liked by their peers.

The results for the disliking nominations, on the other hand, included a marginal main effect for gender, $F(1, 240) = 3.77$, p = .053, indicating that boys obtained more disliking nominations than girls. The main effect for sex role, $F(3, 240) = 5.53$, $p < .005$, yielded the finding that undifferentiated (M = 3.93) children obtained the most disliking nominations, feminine (M = 3.05) and mascu-

line (M = 2.42) children were intermediate, and androgynous (M = 2.01) children received the fewest disliking nominations.

The question of whether sociometric nominations could be predicted by Type A and sex role ratings was investigated through two multiple regressions. The predictor variables of MYTH factor scores, CPAQ masculinity and femininity scores, grade, and gender were simultaneously included in regressions on sociometric liking and disliking nominations. Sixteen percent of the variance of liking nominations was predicted by two variables: high Type A factor 1 scores and low Type A factor 2 scores, $F(7, 256) = 6.95$, $p < .001$. Twelve percent of the variance of disliking nominations was predicted by the same two variables with opposite values: low Type A factor 1 scores and high Type A factor 2 scores, $F(7, 256) = 5.01$, $p < .001$.

Discussion

The data reported here were intended to cast light on the interrelationships between sex role orientation, gender, and Type A behavior of early grade school children. Certain hypotheses were substantiated and there were a couple of surprises.

First, the hypothesis that the masculine sex role is associated with Type A behavior was verified. Masculinity scores from the Children's Personal Attributes Questionnaire (Hall & Halberstadt, 1980) correlated highly with the combined Type A score and nonsignificantly with the femininity scores. Further, when the two factors of the MYTH test of Type A behavior (Matthews & Angulo, 1980) are examined separately, one finds that the masculinity scores correlate

with both, but the femininity scores correlate only with the leadership/competitiveness factor. These results indicate that the more undesirable behaviors tapped by the aggressiveness factor are definitely part of the masculine sex role, but the leadership behaviors tapped by the other factor are not sex role-specific. In other words, some feminine individuals exhibited leadership and competitive behaviors too, although this was found to be more true with masculine individuals.

And as predicted, a gender difference was found for Type A behavior. Males were rated higher than females for the combined MYTH scores, the leadership factor, and the aggressiveness factor. The size of the difference was larger for the aggressiveness factor, as one would predict also.

Several findings indicated the possibility of a developmental trend from kindergarten to fourth grade in the expression of Type A behavior by certain sex role groups. The focus will be on the interaction between sex role and grade for the aggressiveness factor, rather than the combined MYTH score, because the former effect seems to be the reason for the latter effect. Masculine children consistently exhibited a high level of aggressive Type A behavior over this age span. Androgynous children, on the other hand, demonstrated a high level in kindergarten, but then exhibited less as they become older. Feminine children maintained a low level, and the undifferentiated children increased with age to the point that they were rated as high as the masculine children by fourth grade.

These data indicate that aggressive Type A behavior is not only associated with masculinity, but also with the absence of masculinity and femininity (i.e., the undifferentiated individual). This result may be due to the fact that the CPAQ measures positive or desirable aspects of femininity and masculinity. Someone who lacks these positive traits is likely to possess undesirable traits such as aggressiveness and pushiness. However, this relationship was found for the oldest group; it seems that at the youngest level, masculinity, and masculinity alone, predicts this type of Type A behavior. For the older children, it became more complicated: both 1) masculinity, in the absence of femininity, and 2) and the lack of masculinity and femininity together, predisposed the child to be high for this factor.

Why this developmental trend was found is not certain. It is possible that the nature of androgyny at the youngest age is not the same as for fourth grade children. Perhaps masculinity and femininity "mix" better for the older children in the sense that femininity cancels out the Type A-disposing qualities of the masculine traits in the androgynous individual. Another issue is that accurate sex role classification of very young children is problematic because research has not verified reliable behavioral manifestations. So it is also possible that teachers' and children's self ratings on the CPAQ are qualitatively different for kindergartners as compared to older children.

Another important finding to come out of this data is the con-

clusion that the MYTH test of children's Type A behavior does indeed contain items measuring two factors as Matthews and Angulo (1980) claimed. The data clearly pointed to the wisdom of separately analyzing MYTH scores into the two factors. These data suggest that the leadership/competitiveness factor is largely a positive group of traits, and the aggressiveness/impatience factor is largely a negative group of traits. The pattern of their ability to predict liking and disliking nomination scores supports this claim. Children liked other children who are competitive and disposed to be leaders and are not aggressive or impatient, and disliked other children who are aggressive and impatient and are not competitive and disposed to be leaders. In other words, these factors proved to provide mirror images of each other in predicting who is liked and disliked. Importantly, combined MYTH scores succeeded in predicting liking nominations, but not disliking nominations.

This result suggests that misleading findings could result if researchers do not analyze the two factors separately. Results of a study by Williams, et al. (reported by Wood, 1986) indicate that the "toxic component" of Type A behavior is the hostility aspect. The aggressiveness/impatience factor of the MYTH taps this construct, and future research may wish to concentrate upon this aspect of the Type A construct rather than using the combined MYTH test score.

Conclusions

The data reported here strongly suggests that Type A behavior in early grade school children is predictive of the quality of peer

relationships. The implication is that hostile Type A children make for poor friends. It is not clear whether being friendless predisposes one to be hostile and impatient, or whether being hostile and impatient prevents the child from making friends. It is likely that the causal path is the second possibility.

At the same time that the data reported here was collected, we also performed systematic observations on these children in the classroom and on the playground. This data is not yet coded or analyzed, but when it is, it will provide valuable information about the causal connection of peer ratings and Type A behavior. It will also shed a great deal of light on the reasons for the developmental trends in aggressive Type A behavior shown by the androgynous and undifferentiated children.

Williams, et al. (reported in Wood, 1986) has collected data which indicates that Type A individuals who have supportive social networks suffer less from narrowing of coronary arteries than Type A individuals without social support. This finding is important in the present context because it means that Type A individuals who lack friends (and this happens early in their lives according to the data reported here) are more likely to suffer premature morbidity from heart disease than other individuals who have friends. The implication is clear: we should intervene with young Type A children and teach them better social skills so that they can build a supportive social network. Stressful situations can be coped with better if the individual can turn to his or her friends for emotional support and

help (Lazarus, 1966). Friendship has been known to cure many maladies, including a broken heart; perhaps its "magic" properties also allow it to prevent actual physiological damage to the heart.

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Table 1

Intercorrelation Matrix of CPAQ Masculinity and Femininity, Combined MYTH and MYTH Factor Scores, and Liking and Disliking Nominations

	2	3	4	5	6	7
1. CPAQ Masculinity	.49**	.50**	.66**	.25**	.29**	-.22**
2. CPAQ Femininity		.12	.25**	-.04	.13*	-.23**
3. Combined MYTH			.90**	.90**	.24**	.02
4. MYTH-Leadership/Competitiveness				.62**	.36**	-.13*
5. MYTH-Aggressiveness/Impatience					.07	.16*
6. Sociometric Liking Nominations						-.35**
7. Sociometric Disliking Nominations						

N = 280.

Table 2

Interaction Between Grade and Sex Role of Subject for Combined MYTH Test Scores

	Sex role orientation			
Grade	Androg.	Masculine	Feminine	Undiff.
Kindergarten	59.2	56.2	44.8	40.5
1st/2nd grade	49.1	55.2	37.7	46.9
3rd/4th grade	48.5	57.7	47.7	47.9

Table 3

Interaction Between Grade and Sex Role of Subject for the Aggressiveness/Impatience MYTH Factor Test Scores

	Sex role orientation			
Grade	Androg.	Masculine	Feminine	Undiff.
Kindergarten	29.6	28.8	23.1	21.4
1st/2nd grade	21.5	26.6	19.4	23.9
3rd/4th grade	21.3	28.5	23.9	27.3